

Flight Scientist Report  
Saturday 02/20/2021 ACTIVATE RF46

Flight Type: UC-12 only

Flight Route: KLFY ATLIC ZIBUT 3771N SIE KLFY

Special Notes: Falcon down due to maintenance; excellent cold air outbreak day where the UC-12 was able to characterize a long track along the wind transitioning from clear to closed cell to open cell with lots of dropsondes. This day had thinner clouds potentially than other CAOs which is good to showcase remote sensing capabilities.

### **King Air**

Mark Sandeen Pilot Report:

Flight time: 0950-1305

No significant issues to report on flight. Aircraft had minor discrepancy that is not expected to affect tomorrow's flight (ice vane indication issue).

Delayed on deck due to flight test instrument issues, which reduced fuel available airborne by about 200 lbs. This, along with varied winds, resulted in the aircrew flying less distance outbound. Flight probably could have gone an additional 50 miles outbound with the extra fuel and with better knowledge that wind would decrease, but the decision to operate with a more limited safety factor must be made wisely.

Recommend increasing clearance to FL290 for testing in case flight operations below 280 drive the test higher.

Observed Antares rocket launch, although the plume was rather distant.

Flight Science Report (Taylor Shingler):

Today the UC12 flew out east through ATLIC and ZIBUT to set up a long upwind leg to support the modeling efforts of the cold air outbreaks. The upwind leg was run from east of ZIBUT up to SIE and then returning to Langley. 2 sondes were dropped along the ATLIC-ZIBUT run and another 7 (6 successful, 1 failure) were dropped along the SE-to-NW modeling run. The cloud scene appeared to transition from a broken deck to relatively solid and to clear near the coast. All instruments were performing nominal.

### **Falcon**

Plane down due to maintenance

### 20210220 - ACTIVATE - KingAir flight track

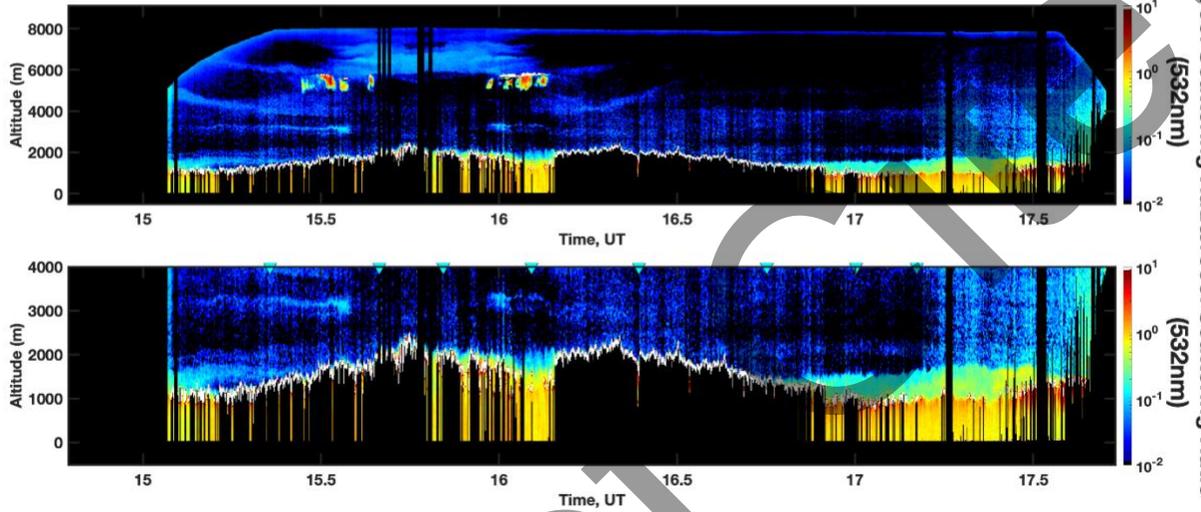
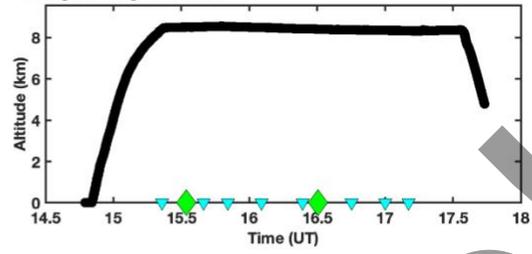
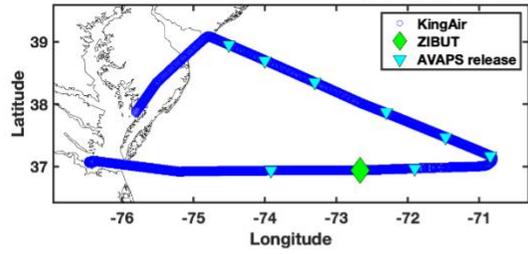
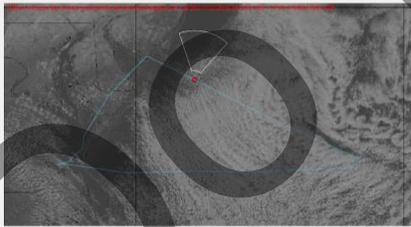


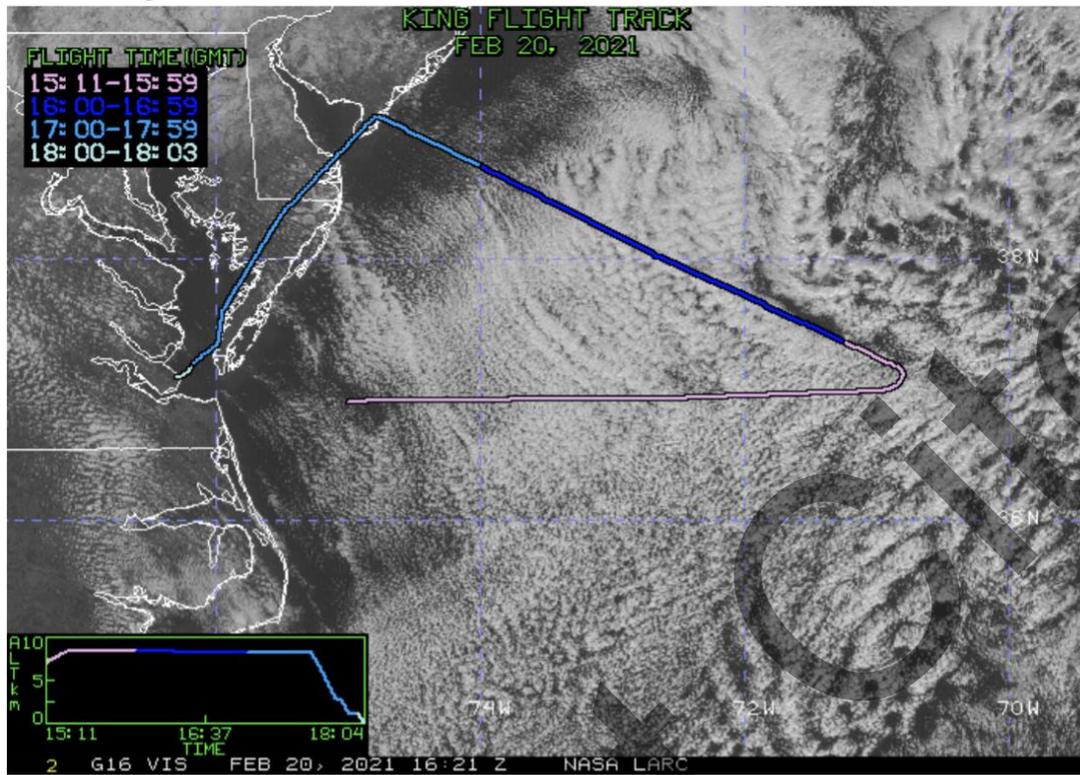
Photo from Taylor Shingler near a transition point.



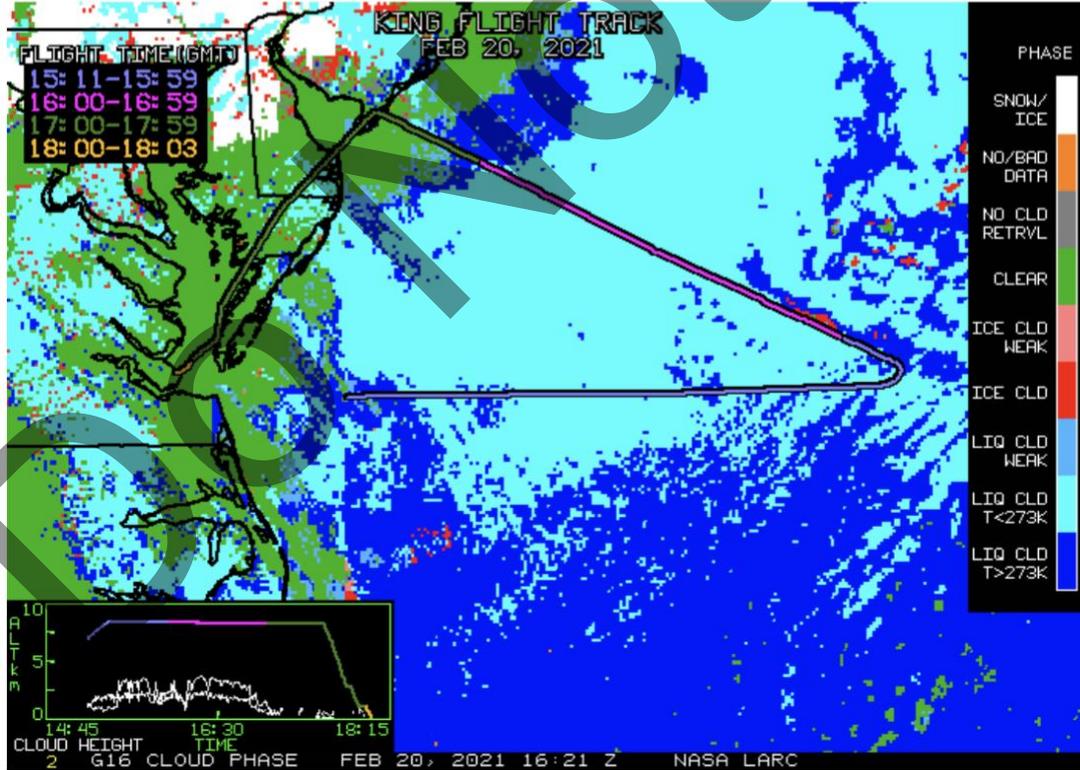
NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 46, 16:21 UTC Feb 20, 2021

Do Not Cite!

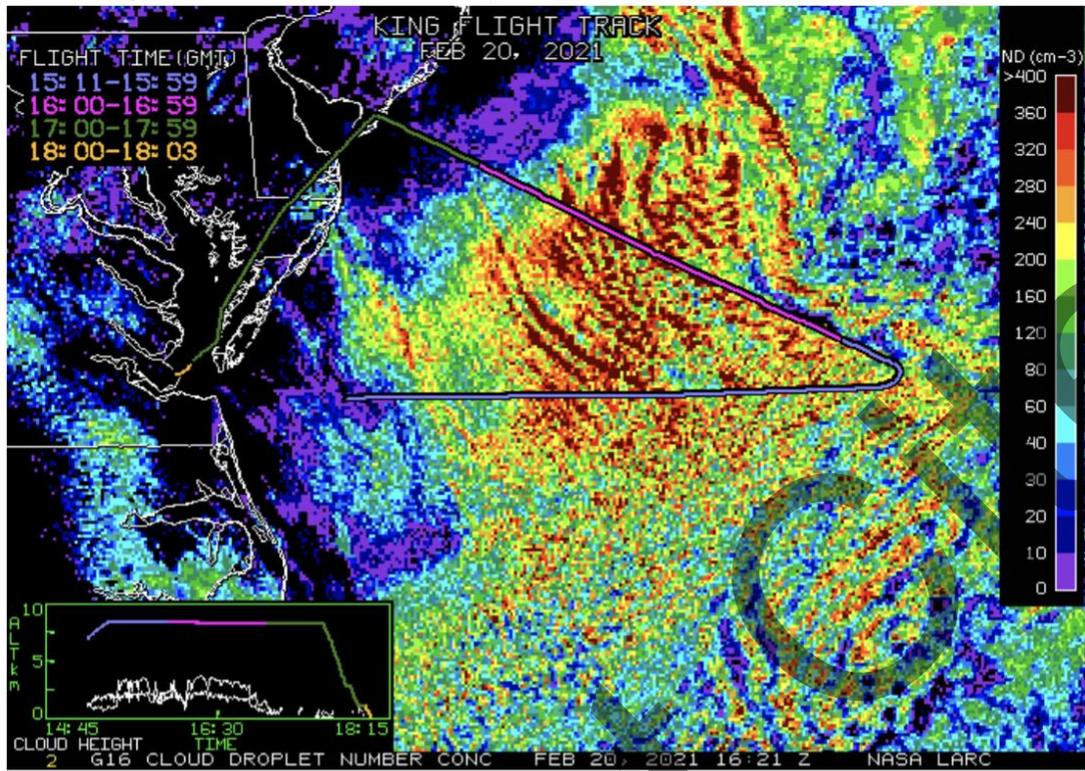
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

